



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/543,130

07/22/2005

Uwe Backes

113372.NEW1

2615

27557

7590

09/05/2006

BLANK ROME LLP

600 NEW HAMPSHIRE AVENUE, N.W.

WASHINGTON, DC 20037

EXAMINER

BASICHAS, ALFRED

ART UNIT

PAPER NUMBER

3749

DATE MAILED: 09/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/543,130

Applicant(s)

BACKES ET AL.

Examiner

Alfred Basicas

Art Unit

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21, 24 and 26-31 is/are rejected.
- 7) ☒ Claim(s) 22, 23 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/22, 8/25/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “34” has been used to designate both fuel inlet and recess in figure 2, and **reference character “15” has been used to designate both tank portions in figure 1d**. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: Numeral “17” must be replaced by numeral “13” in the following locations:

- a. Page 8, line 17, first occurrence;

Art Unit: 3749

- b. line 20, first occurrence;
- c. line 21; and
- d. line 23.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 7-19, 24, and 26-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Ebbeson (4,416,617), which shows all of the claimed limitations including, among other things,

1. A burner for a heater for combustion of a hydrocarbon liquid, the burner comprising: a combustion chamber having a combustion zone for combusting the hydrocarbon liquid and at least one tank portion 22 for containing an amount of the hydrocarbon liquid, the or each tank portion being positioned adjacent the combustion zone and being arranged to feed the hydrocarbon liquid into the combustion zone, the or each tank portion being at least in part filled with a filling material 28 having a plurality of portions that pass through the interior of the or each tank portion, wherein the filling material is arranged for distribution of at least some of the heat that is developed in the combustion zone and is directed into the or each tank portion whereby at least one local heat maxima in the tank portion is reduced, thereby reducing the likelihood of ignition in the tank portion.

2. The burner as claimed in claim 1 wherein the filling material comprises more than one hundred particles which define spaces between them.

3. The burner as claimed in claim 1 wherein the filling material comprises a mesh 28.

4. The burner as claimed in claim 1 wherein the filling material comprises a mesh gauze 28.

8. The burner as claimed in claim 1 further comprising combustion control means 33,39 for controlling gas exchange of the combustion in a first combustion zone.

9. The burner as claimed in claim 8 wherein the control means comprises an

Art Unit: 3749

opening that allows diffusion of oxygen into the combustion chamber and a closure for the opening 21,33.

10. The burner as claimed in claim 9 wherein the combustion control means comprises a shutter 21 that is arranged to adjust the opening so as to control the combustion in the combustion zone.

11. The burner as claimed in claim 10 wherein the shutter 21 is arranged to close the opening so as to extinguish a flame in the combustion zone.

12. The burner as claimed in claim 11 wherein the shutter is arranged so that, when the opening is closed, the lid portion 33 overlaps the shutter 21.

13. The burner as claimed in claim 1 further comprising spacers 23 positioned adjacent an external portion of the burner and arranged to avoid direct contact between the burner and an item that supports the burner.

14. The burner as claimed in claim 1 further comprising a tray 10 in which the burner is positioned and which is arranged to avoid direct contact between the burner and an item that supports the burner.

19. The burner as claimed in claim 1 wherein the combustion chamber further comprises a fuel inlet opening 31 through which the hydrocarbon liquid may be filled into the or each tank portion of the combustion chamber.

24. The burner as claimed in claim 1 comprising two tank portions between which the combustion zone is positioned (since the combustion zone is centrally located and the tank takes up almost the entire area, there is clearly two portions thereof between which the combustion zone is positioned).

26. The burner as claimed in claim 1 wherein the burner comprises at least two tank portions and wherein the combustion zone is positioned between the at least two tank portions.

28. A burner for a heater for combustion of a hydrocarbon liquid, the burner comprising: a combustion chamber having a combustion zone for combusting the hydrocarbon liquid and at least one tank portion for containing an amount of the hydrocarbon liquid, the or each tank portion being positioned adjacent the combustion zone and being arranged to feed the hydrocarbon liquid into the combustion zone, and a fuel inlet portion having a closure; and a combustion control means for controlling gas exchange of the combustion zone through an gas exchange opening of the combustion chamber wherein the closure of the fuel inlet is arranged so that filling of the fuel into the or each tank portion is only possible if the combustion control means closes at least a portion of the gas exchange opening of the combustion chamber. (see previous claims)

29. The burner as claimed in claim 28 wherein the combustion control means comprises a shutter for controlling the gas exchange through the gas exchange opening of the combustion chamber and wherein the closure of the fuel inlet opening also includes a shutter. (see previous claims)

30. The burner as claimed in claim 29 wherein the shutter for controlling gas and the shutter of the fuel inlet opening are coupled. (see previous claims)

As regards claims 7, 15-18, 27 and 31, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ebbeson (4,416,617), which discloses substantially all of the claimed limitations. While a filler material is recited, Ebbeson does not specifically recite

Art Unit: 3749

5. The burner as claimed in claim 1 wherein the filling material comprises steel wool.

6. The burner as claimed in claim 1 wherein the filling material comprises a metallic material.

Official Notice is given that steel wool is old and well known in the art. Such an arrangement has the clear and obvious benefit of providing for noncombustible material for providing uniform heat distribution. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate steel wool into the invention disclosed by Ebbeson, so as to provide for a noncombustible material for providing uniform heat distribution.

9. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ebbeson (4,416,617) in view of Rafford (4,793,321). Ebbeson discloses substantially all of the claimed limitations, but does not specifically recite

20. The burner as claimed in claim 8 wherein the fuel inlet opening is remote from the opening of the combustion control means.

21. The burner as claimed in claim 20 wherein the fuel inlet opening comprises a closure.

Rafford teaches an alcohol burner including many of the claimed limitations including a remote fuel inlet 36,37 and cap 35. Rafford states that such an arrangement avoids spillage (see at least col. 4, lines 29-48). Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Rafford's teaching of the inlet arrangement into the invention disclosed by Ebbeson, so as to avoid spillage.

Allowable Subject Matter

10. Claims 22, 23, and 25 are objected to as being dependent upon a rejected base claim, but would be allowable **if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alfred Basichas whose telephone number is 571 272 4871. The examiner can normally be reached on Monday through Friday during regular business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 571 272 4828. The fax phone numbers for the organization where this application or proceeding is assigned are 571 273 8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center telephone number is 571 272 3700.

August 24, 2006


Alfred Basichas
Primary Examiner